



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/410,545	10/01/1999	DAVID E. SHEPHERD	16869A003800	7012

20350 7590 06/25/2003

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

KIM, KENNETH S

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 06/25/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/410,545

Applicant(s)

SHEPHERD, DAVID E.

Examiner

Kenneth S KIM

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

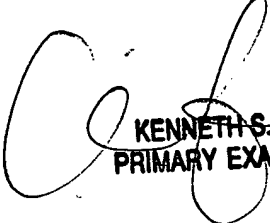
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
KENNETH S. KIM  
PRIMARY EXAMINER

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 12, 2003 has been entered.

1. Claims 1-4 and 6-21 are presented for examination.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7-13 and 19-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant failed to teach how to rotate and sign-extend a first part of data for storing into an unaligned memory locations. The specification indicates that no sign-extension is performed for storing into an unaligned memory locations (page 18, line 32). The claim limitation is inconsistent with the description in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4 and 6-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- (a) Claims 1 and 14, it is not clear what is meant

by "*rotating and masking and sign-extending said first part of said unaligned data in said first storage location from the first position to a second position*" and

by "*rotating and masking said second part of said unaligned data in said second storage location from the third position to a fourth position*".

- (b) Claims 7 and 19, it is not clear what is meant

by "providing a first instruction causing *rotation of data in a first storage location and sign-extending* and storing of a first part of said data in a first portion of unaligned plurality of memory locations *from a first position to a second position*" and

by "providing a second instruction causing *rotation of data in a second storage location* and storing of a second part of said data in a second portion of unaligned plurality of memory locations *from a third position to a fourth position*".

- (c) Claims 1, 7, 14, and 19, the first and fourth positions of memory address are ambiguous in light of the first to fourth positions of the first and second storage locations.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4 and 6-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwata et al, U.S. Patent No. 5,499,380.

Iwata et al teaches the invention as claimed in claim 1 including a method for loading unaligned data stored in a plurality of memory locations (col. 9, lines 34-44), comprising :

(a) providing a first instruction causing loading (col. 9, line 51) a first part of said unaligned data into a first storage location (206; col. 9, line 57) by using a first pointer giving a memory address of a first position (208; col. 9, line 52),

(b) rotating and masking (col. 10, line 1; rotate and mask is equivalent to shift, col. 9, line 65) and sign-extending (col. 9, line 63) said first part of said unaligned data in said first storage location from a first position to a second position (intermediate data stored in 210; col. 10, line 7),

(c) providing a second instruction (col. 10, line 9) causing loading a second part of said unaligned data into a second storage location (can use the same register if the intermediate data is stored in different registers in 210; col. 10, line 20) by using a second pointer giving a memory address of a second position (col. 10, line 11),

Art Unit: 2181

(d) rotating and masking (equivalent to shifting; col. 9, line 34) said second part of said unaligned data in said second storage location from a third position to a fourth position (intermediate data stored in 211; col. 10, line 41),

(e) providing a third instruction causing combining (col. 10, line 49) said first storage location with said second location using a logical operation into a result storage location (col. 10, line 49), and

further teaches as in claims 2-4, 6, and 13,

(f) wherein the first, second, and result storage locations and the pointers are registers (206, 211, 210, and 208) – claim 2,

(g) wherein registers are 64-bit in length (can be any length) – claim 3,

(h) wherein the logic operation is a bit-wise OR operation (well known method of merge) – claim 4,

(i) wherein said rotation is performed in two phase of major and minor rotations (rotation can be in any form or phase) – claim 6,

(j) wherein said unaligned data is 16 or 32 bits in length, and said first instruction further comprises sign extension when said unaligned data is in big endian order and said second instruction further comprises sign extension when said data is in little endian order (sign extender 205 can be selectively used for each memory access depending on the endianness) – claim 13, and

further teaches as in claim 7, a method for storing data into an unaligned plurality of memory locations (col. 11, lines 54-64) comprising

Application/Control Number: 09/410,545  
Art Unit: 2181

- (k) providing a first instruction (col. 11, line 64; col. 12, line 20) causing rotating of data in a first storage location and sign-extending (col. 12, line 5) and storing of a first part of said data in a first portion of unaligned plurality of memory locations (col. 12, line 20) from a first position to a second position (immediate data stored in 207; col. 12, line 16),
- (l) having a first pointer giving an address of the first location (208, col. 12, line 22),
- (m) providing a second instruction (col. 11, line 64; col. 12, line 28) causing rotating of data in a second storage location (in a similar manner as in col. 12, line 4) and storing of a second part of said data in a second position in said unaligned plurality of memory locations from a third position to a fourth position (immediate data stored in 207; col. 12, line 27),
- (n) having a second pointer giving an address of the fourth position (col. 12, line 31),
- and

further teaches as in claims 8-12,

- (o) the pointer comprises high and low addresses (col. 12, lines 43 and 45) - claim 8,
- (p) wherein data is stored in said plurality of unaligned memory locations inclusively between said high address and low address (col. 12, lines 39-45) - claim 9,
- (q) wherein said rotating is performed in two phases of major and mirror phases (can be any form or phase) - claim 10,
- (r) wherein said first and second locations are first and second registers of 64-bits (can be any number of bits) - claim 11, and
- (s) wherein said data is selected from a group consisting of data 8, 16, 32, and 64 bits in length (use of different length data is well known) - claim 12.

The method claims 7-12 for storing are rejected in the alternative as the reversal of the method of loading in claims 1-6.

The broader method claims 14-21 without the limitations of instruction providing and masking are equivalently rejected based on the same reason.

8. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vahlstrom et al taught a method of rotate aligning and sign-extending data from unaligned memory locations.

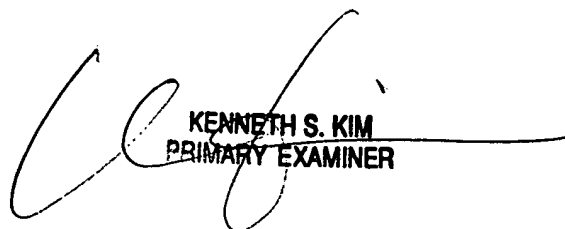
Ward et al taught a method of providing aligned and sign-extended input operands to an ALU.

Prisote taught a method of rotating and sign-extending data bytes.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (703) 305-9693. The examiner can normally be reached on M-F (8:30-17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
KENNETH S. KIM  
PRIMARY EXAMINER